

Unit 1 Review– Foundations of Algebra

The practice problems are broken up into stations with a rating scale at the bottom. Complete all the problems in each section on a separate sheet of paper. Be sure to label the section and rate your confidence and understanding for the section on your paper. This will help guide your studying for the unit test next week.

Station 1 – Order of Operations

Simplify:

1) $13 - 12 \div (2 + 2) \cdot 3 - 3$

2) $4\sqrt{25} \div (9 - 4) \cdot 2$

3) $48 \div 12 \cdot 2$

4) $\frac{1}{4}(21 + 3) \div 3 + 6$

5) $\frac{10(5 - 6)}{2} + 5$

6) $8 + 3(4 - 1)$

7) $10 - \{22 \div [2 + (3 \cdot 3)]\}$

8) $(3 - 8)^2 + (4 - 3 \cdot 2)$

Self-assessment rating: 1 2 3 4 5
 Perfect so-so I need help on these!

Station 2 – Mixed Test Practice

9) Tell whether the given algebraic statements is sometimes, always, or never true. $x = -3$ is an extraneous solution for the equation $\frac{8}{x+3} = \frac{x}{x+3}$.

10) Tell whether the given algebraic statements is sometimes, always, or never true.

$$12(2x + 1) = 12(2x + 3)$$

11) Solve the equation $|x| = 14$

12) What value of r makes the equation true? $-3(4r - 8) = -36$

13) Rewrite the following radical expression with a fractional exponent. $\sqrt[3]{y^7}$

14) Rewrite the following expression with a radical. $x^{\frac{3}{4}}$

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Simplify:

38) $3 + \sqrt[4]{x+1} = 5$ **39)** $\frac{\sqrt{2x+1}}{5} = -10$ **40)** $x^5 + 7 = -25$

Station 7 – Translating Expressions

Translate the following verbal expressions into symbols:

41) Twelve more than the product of a number and five

42) Six times as much as the sum of two and a number

43) Ten less than a number cubed

44) The product of a number and five

45) Nine times the quantity six minus a number.

Self-assessment rating: 1 2 3 4 5
 Perfect so-so I need help on these!

Station 8 – Simplifying with Verbal Directions

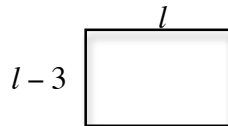
Simplify:

46) The sum of $4x^2 - 10x + 3$ and $7x - 6$ is ...

47) If $5x^2 - 3x + 5$ is subtracted from $8x^2 + 12x - 3$, the difference is...

48) What is the expression $5x^3 - 2x^2 + 7 - x(5 - x)$ equivalent to?

49) The width of the rectangle is 3 units shorter than the length. Write an expression that could represent the area of the rectangle.



50) The sum of two binomials is $2x^2 - 10x$. If one binomial is $5x^2 + 3x$, what is the other binomial?

51) Evaluate the expression $\frac{-b + \sqrt{b^2 - 4ac}}{2a}$ for $a = 3$, $b = -4$, $c = -7$

Self-assessment rating: 1 2 3 4 5
 Perfect so-so I need help on these!
